STATEMENT OF:

Susan M. Cischke

Vice President of Environmental and Safety Engineering

Ford Motor Company

House Agriculture Subcommittee on Department Operations, Oversight, Dairy, Nutrition, and Forestry

"The Future of Renewable Fuels and Flex-Fuel Vehicles"

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MEMBERS OF THE COMMITTEE:

Good morning. My name is Sue Cischke and I am Vice President of Environmental and Safety Engineering at Ford Motor Company. I am especially pleased to be here at Oakland University where I spent my undergraduate years. Energy security is a significant issue facing our nation today, and the rapidly growing interest in renewable fuels and flexible fuel vehicles as a way to address energy concerns is of great importance to the auto industry, especially here in Michigan. I appreciate the opportunity to briefly share with you Ford Motor Company's views on alternative fuels - particularly ethanol - and flexible fuel vehicles.

At Ford, we recognize that we have a responsibility to do something to help address America's energy security needs, and we are accelerating our efforts to develop innovative solutions. Recently, our chairman, Bill Ford, renewed our company's commitment to driving American innovation when he declared that "innovation will be the guiding compass of everything we do." That innovation begins with alternative fuels and vehicles. For example, Ford produced the first American hybrid on the road today – the Ford Escape Hybrid. Now, we have committed to building up to a quarter-million hybrids a year by 2010.

In addition to hybrids, we believe that greater use of renewable fuels like ethanol, a domestically produced renewable fuel, will help reduce reliance on foreign oil. We applaud Congress' efforts that resulted in the Energy Policy Act of 2005, as well as the President's recent commitment to address our nation's addiction to oil.

Ford has been building flexible fuel vehicles for over a decade, and we are an industry leader in this technology. These FFVs are capable of operating on up to 85% ethanol, or gasoline, or any mixture in between. And all of our gasoline powered vehicles are capable of operating on 10% ethanol or "E10". FFVs are a great alternative for our customers because they provide them with an option to choose between E85 and gasoline as they desire. As ethanol production increases, driven by growing availability and demand, competitive pricing will help lower the cost of E85, increasing its use as well as demand for FFVs.

In 2006, Ford will produce 250,000 FFVs, and by the end of the year, we will have placed a total of nearly 2 million FFVs on America's roads, including America's best selling vehicle -- the Ford F-150.

But we are not stopping there. Earlier this year we unveiled the Ford Escape Hybrid E85 research vehicle, which marries two petroleum-saving technologies: hybrid electric power and E85 flexible fuel capability. Though there are many significant technical and cost challenges to address, we believe that if just 5% of the U.S. fleet were powered by E85 Hybrid Electric Vehicles, oil imports could be reduced by nearly 6 billion gallons a year.

As a whole, U.S. automakers will have produced enough FFVs so that nearly 4% of the U.S. fleet can run on ethanol. If all of these vehicles used E85, the nation would save 3.6 billion gallons of gasoline per year. That's like saving a full year of gasoline consumption in a state like Missouri or Tennessee.

While I'm talking about FFVs, let me clear the air about what it takes to make an FFV. We've heard from many people that all it takes to make a FFV is "a little tweak to the chip that runs the engine". I really wish it was that simple - but it's not. Out front today, you will see a 2006 F-150 FFV. What you can't see are the special features that allow it to operate on E85. Because ethanol is a unique fuel with unique properties, fuel tanks with low permeation characteristics are required. It also requires a special fuel pump and fuel lines to deliver the fuel to the engine. Unique injectors introduce the fuel into the engine where special calibrations programmed into the on-board computer determine how much ethanol is in the fuel and how best to set spark timing and fuel flow to ensure the engine operates properly and meets emission standards on all ethanol and gasoline mixtures. And because there is more than one fuel calibration within an FFV, costly development and certification testing is doubled. Many of the FFV parts and processes are patented by Ford and are the result of innovative ideas by our best engineers, and we're proud of them. The bottom line -- making an FFV is a significant investment for auto manufacturers.

We all know however, that producing alternative vehicles is only half the equation. We need to make sure Americans have a place to fill up their tanks with alternative fuels like E85. That's why Ford is working closely with VeraSun Energy, the second largest ethanol producer in the U.S., and other key stakeholders to promote the expansion of E85 infrastructure in key markets. We recently announced that Ford and VeraSun will be working together to create the nation's first "Ethanol Corridor" across Missouri and Illinois. Station sites are now being selected in locations that will allow an FFV driver to travel from Kansas City, Missouri to Chicago, Illinois using only E85. We are very excited about this project and our efforts to make E85 more readily available to FFV owners who choose to fill their vehicles with a fuel that enables the U.S. to reduce its dependence on imported oil. Ford and VeraSun are simply planting the seeds of a much

broader ethanol supply system that will grow as more and more stakeholders step up to the plate and help to nurture a pathway to energy independence. But much more needs to be done to dramatically increase E85 availability.

We believe that in order to meet the challenges of rapidly increasing our use of renewable fuels, we must engage in an *integrated approach* -- a partnership of stakeholders. It should include the automotive and fuel industries, government, consumers, and other sectors. That's the best way to address the issue with a full range of solutions including advanced vehicle technologies, alternative fuels, infrastructure development, and government incentives. Domestic auto manufacturers are committed to doing their share, but effective and efficient solutions require a wider commitment from other players.

We have called upon the oil industry to join us in our effort to diversify America's energy sources. We obviously need key partners like the oil industry to invest in developing and marketing renewable fuels like E85 – and we need it to do so now and rapidly. We fully support government incentives to encourage the industry and others to accelerate this investment.

On the government side, federal, state, and local incentives to accelerate the introduction of advanced technology vehicles and the alternative fuel infrastructure to fuel them will ensure the success of the nation's energy diversity initiatives. With government actions, infrastructure expansion will support price competition and drive the success of renewable fuels.

To put this all in perspective, there are about 170,000 retail gasoline stations in the U.S., but only about 600 have ethanol pumps. It will take significant growth in the number of stations to effectively fuel existing FFVs, and even more as the number of FFVs rises in the future. Growing the infrastructure will be a challenge for stakeholders, but must be done.

For the future, we need national research efforts to pursue the production of ethanol from more energy-efficient cellulosic materials like rice straw, corn stover, switch grass, wood chips or forest residue. Ethanol derived from these sources will make ethanol even more available by broadening the feedstock sources, and will also further reduce greenhouse gas emissions.

Over the next year, we will have an enormous opportunity to strengthen our use of renewable fuels through the reauthorization of the federal Farm Bill. As the Farm Bill process begins, we must focus efforts on supporting the nation's energy independence though funding of

programs that will support wider use of renewable fuels like ethanol. We encourage Congress to provide an emphasis on energy security as it considers the Bill in 2007.

Consistent implementation of an *integrated approach* across all sectors will allow us to achieve much more in a shorter timeframe and at a significantly lower cost than if each stakeholder were to pursue solutions independently. Energy independence is too important to the nation to proceed any other way.

The challenges are considerable but not insurmountable, and there is an enormous amount we can achieve if we act together. We have to ensure that our business is sustainable by making vehicles that continue to meet the changing needs of the 21st century. That's a responsibility we owe to our customers, shareholders and our employees. But at another level, all of us have the opportunity to do something about energy independence – and that's a responsibility we owe future generations.

Thank you again for the opportunity to address the Committee.